

NOTES AND NEWS.

PROF. DR. W. P. WILSON has recently been elected a member of the German Botanical Society.

R. v. WETTSTEIN shows by the intermediate stages that each of the staminodes of *Parnassia palustris* represents a single stamen.

THOUVENIN after an exhaustive study of the Saxifragaceæ says that there is not a single anatomical character which is constant.

PROF. DR. H. MUELLER-THURGAU of Geisenheim has been appointed director of the German-Swiss experiment station and school for fruit, wine, and garden culture at Wädensweil near Zürich.

AN OLD LETTER of Persoon's is published in the *Am. Naturalist* (Dec.) It was found in a copy of Persoon's "Synopsis Methodica Fungorum," recently purchased for the University of Nebraska.

PROF. FRANK finds *Robinia Pseudacacia* capable of utilizing free nitrogen, like the other Leguminosæ. In the roots of four plants 125 days old were 0.092 gm. of N, as against 0.0024 gm. in the seed sowed.

PROF. DR. JULIUS WORTMANN of Strassburg assumed the directorship of the plant physiological station at Geisenheim on February 1. The station is a department of the royal institute of fruit and wine culture.

A NEW GENUS of Uredineæ, *Barclayella*, is described by Dr. Dietel in a late number of *Hedwigia* (xxix, p. 266). It is related to *Chrysomyxa* and *Coleosporium*. Only teleutospores are known. The single species described occurs in the western Himalayas, parasitic upon spruce.

HUGO DE VRIES has succeeded in obtaining for several successive years an increasing number of sterile plants of maize by sowing grain from the most poorly productive plants. He concludes, therefore, that sterility in the case under consideration is a hereditary quality susceptible of fixation.

THE *Journal of Botany* quotes some botany that has found its way into fiction (The Village Blacksmith). It is good enough to bear repetition. "The garden had been neglected . . . his roses had reverted to type, and bore suckers of bramble and large-eyed roses." This reversion to type took place in a couple of months or so.

MR. C. G. PRINGLE'S last season's collection is being determined at Cambridge, preparatory to the distribution of sets. The work was pushed farther south than ever before, and, as a consequence, the collection contains an unusual number of novelties. As soon as the sets of 1890 are distributed Mr. Pringle intends to return to Mexico.

THE EDITORS and publishers of the *Botanisches Centralblatt* announce the commencement of a series of supplements to the journal in order to allow earlier and fuller abstracts of new works. These supplements will each contain 80 pp. and seven will appear annually, increasing the size about one-third. The additional cost to subscribers to the journal will be only *M.* 10.50.

THE MOSSES collected by Dr. Julius Röhl along the N. P. R. R. in 1888 were distributed to different bryologists for study, Brotherus, Müller, Venturi, Cardot, Renault, and Barnes. From their reports diagnoses of 24 new species and 20 new subspecies and varieties are published in the *Bot. Centralblatt*, xliv, 385-391 and 417-424. The full reports are to be published later.

THE *Gardeners' Chronicle* has just celebrated its jubilee, its first number having appeared January 12, 1841. The founders were Dr. Lindley and Sir Joseph Paxton. It is to be congratulated upon its long and eminent list of contributors and upon its constantly increasing usefulness. It is one of those gardening journals that have become a necessity not only to the practical gardener but to the professional botanist as well.

A STRANGE FUNGUS from Madagascar is described and figured in the *Journal of Botany* (Jan.) by George Masee. It consists of a stem-axis bearing distinct pilei which are acropetal in development. "The stem is erect, tapering upwards, and bearing several superposed circular pilei separated by elongated internodes, and becoming smaller upwards." It becomes 6 to 9 cm. high, has been taken as the type of a new genus, and bears the name *Mycodendron paradoxa*.

IN A DESCRIPTIVE LIST of Ranunculaceæ from western North America, J. Freyn in the *Deutsche bot. Monatsschrift* for last December (viii, p. 176) describes a blue form of wind flower from Washington as *Anemone cyanea*, which seems to be closely like, if not identical with, *A. Oregana* of Gray. He also distinguishes variety *strigulosus* of *Ranunculus reptans* from Oregon, and raises the British American form, *R. aquatilis*, var. *heterophyllus* Torr. & Gr., to the dignity of a species under the name *R. Grayanus*.

MARCEL BRANDZA has made a somewhat extended study of the anatomical characters of hybrids. Some of the peculiarities he figures (in the *Revue gén. de Bot.*, vol. ii,) are very striking. His general conclusions are as follows: 1. Certain hybrids present in their structure a combination of the special characters found separately in the parents. 2. In other cases the structure of the different parts of the hybrid is, for all tissues, simply intermediate between the two parents. 3. Other hybrids have in certain organs an intermediate structure and in other organs a structure combining the anatomical peculiarities of the parents.

M. GASTON BONNIER began some time ago a series of experimental cultures of various plants at different altitudes in the Alps and Pyrenees (from 740 to 2400 m.) to determine the effect of Alpine conditions. He presents (*Rev. gén. de Bot.*, ii, 513) the results of this work so far as they relate to the *facies* of the plants. As compared with plants grown in lowlands, the stature is very small; the internodes are very short; the subterranean parts are relatively much more developed; the leaves are very small and both relatively and absolutely thicker and of a darker green color; and the flowers are of more vivid hues. In a future paper he promises to show that both structure and function are correspondingly modified. The illustrations show the changes in size very strikingly.

DOULIOT concludes after studying a number of plants belonging to diverse families "that in the very large majority of Dicotyledons the stem is terminated by three initial cells, and in a small number of others by two initial cells only, in which case one initial is common to the bark and central cylinder. In the Monocotyledons the case of two initial cells is more frequent. In the Gymnosperms the stem has a single initial cell at its apex. The fact of having a single apical cell, together with the presence of the archegonium, allies the Gymnosperms more closely with the Cryptogams, but the presence of an independent epidermis, a common and exclusive character of both Di- and Monocotyledons, serves to connect these two groups with the Gymnosperms."—Cf. Ann. Sci. Nat. Bot., ii, 283–350.

GREENERIA FULIGINEA, which causes the bitter rot of grapes, is not to be confounded with Coniothyrium Diplodiella or Tubercularia acinorum, according to the studies of F. Cavara (Atti Inst. bot. Univ. di Pavia, ser. II, i, p. 359; abs. in Centralblatt f. Bak. u. Parasit., viii, p. 810). Instead of belonging to the Sphærospideæ, it goes to the Melanconieæ and to Saccardo's section Phæosporeæ. The genus characters of Melanconium agree completely with those of Greeneria. C. therefore proposes to place the fungus under that genus with the following diagnosis: *Melanconium fuligineum* (Scribner & Viala) Cavara. Acervulis sparsis griseo-cinereis, epidermide tectis, dein in fissuris ellipticis erumpentibus; conidiis continuis, ovoideis vel ellipsoideis utrinque acutiusculis, dilute fuligineis, in muco atro immersis, stromate parenchymatico conoideo, albido, suffultis, $7.5-9 \times 4-4.5 \mu$.

OSCAR EBERDT sets forth (Prings. Jahrb. für wiss. Bot., xxii, 293) his observations on the formation of starch grains, which differ from the well known ones of Schimper on the function and destiny of the leucoplasts. It would seem from his investigations that there is differentiated from the plasma certain bodies of small size and of proteid-like material which he designates as "Stärke-Grundsubstanz"—*proamyloid*—because they act as the basis for the formation of the grain. These are bordered or surrounded by a covering of plasma. The first starch recognizable by the iodine test appears in the proamyloid which diminishes as the grain and the plasma coat increases. The grain presently enlarges sufficiently to break through the plasma coat which then remains as a cap. The grain continues to grow as long as this cap is present. After it is lost no more growth is possible. Grains so formed will be excentric. Concentric grains are formed inside a plasma coat which they do not rupture. Stratification does not appear until the grain breaks or is freed from the plasma. It is, according to Eberdt, only the plasma coat or cap which can properly be called the starch former. The proamyloid is passive. Eberdt controverts the view that the leucoplasts may be converted into chloroplasts under the influence of light.